



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

REVIEWS

The Geology and Ore Deposits of Goldfield, Nevada. By FREDERICK LESLIE RANSOME, assisted in the field by W. H. EMMONS and G. H. GARREY. U.S. Geol. Surv. Professional Paper 66.

Aside from the importance of a careful and thorough description of a region so rich in mineral deposits as that of Goldfield, the present volume is especially interesting to students of economic geology in that it describes a practically new type of wall-rock alteration. Hitherto the primary deposition of deposits of gold, silver, and copper have been generally ascribed to the agency of hot ascending alkaline solutions; the minerals associated with the ores at Goldfield show, however, that the waters at the time of deposition were highly acid in character. To this type of deposition the name "alunitic and kaolinitic gold-quartz veins" is applied.

The geology of the district is comparatively simple: a basement complex of metamorphic rocks, intruded by masses of alaskite, probably in early Cretaceous, and overlain by a succession of Tertiary lava-flows and lake-beds. Of the lava-flows there are six rhyolites, a latite, three andesites, four dacites, and two basalts. The lake-beds are probably Miocene. All of these rocks have received a careful petrographical description.

Some ore-deposits occur in andesite, but most of them are in dacite. They are complex mineralogically, occurring in irregular tabular deposits which are approximately defined by the term metasomatic fissure veins. The most notable features of the ore-bodies are their remarkable richness and their equally remarkable irregularity. Three distinct types of wall-rock alteration are recorded; the first results in craggy outcrops of silicified volcanic rock, which form a marked feature of the topography; the second is a soft, light-colored mass of quartz, alunite, kaolinite, and pyrite; the third type is propylitic with the formation of calcite, epidote, chlorite, and pyrite. The ores are closely associated with the first two types of alteration, though the alteration is much more extensive than the ore deposits. It is the extensive formation of sulphate minerals, alunite, and kaolinite, in close association with primary ores, that gives to the deposits their chief genetic interest. The changes in the dacite have been carefully studied both qualitatively and quantitatively, as this method probably furnishes the best clue to the nature of the depositing solutions. The

theory reached by the authors is that of simultaneous solfatarism and oxidation. It is supposed that the ascending waters carried, besides the heavy metals, hydrogen sulphide, carbon dioxide, and alkalis. The hydrogen sulphide was oxidized near the surface to sulphuric acid, which, descending, met more of the uprising currents and caused the deposition of the ores.

The age of the ore deposits is placed in the late Pliocene, and it is thought that they were formed at a depth of not more than 1,000 feet.

E. R. L.

The Vertebrata of the Oligocene of the Cypress Hills, Saskatchewan.

By LAWRENCE M. LAMBE. Contributions to Canadian Paleontology, Vol. III, Part IV. Canada Department of Mines, Geological Survey Branch. 64 pages of text and 7 plates.

The Oligocene of the district, composed chiefly of conglomerate, forms the capping of an extensive area of uplands, and lies unconformably on the Laramie. The vertebrate fauna, which has been known from these beds since 1883, has been correlated with the Titanotherium beds at Pipestone Springs, Montana. The publication of the present paper raises the number of species known from these deposits from 25 to over 50. Of these, seven species are of fishes, seven of reptiles, and the remainder of mammals; of the mammals two-thirds of the species belong to the Ungulata.

E. R. L.

Report on Tertiary Plants of British Columbia Collected by Lawrence G. Lambe in 1906, together with a Discussion of Previously Recorded Tertiary Floras. By D. P. PENHALLOW, Canada Department of Mines, Geological Survey Branch.

The report presents a very full account of the distribution and stratigraphic significance of the Tertiary floras of British Columbia. The localities are described at which Tertiary plants have been found, with lists of fossils from each locality; then the individual species are discussed briefly, with mention of the localities in which they are found; and following this is a discussion of the evidence of the floras of the several localities with regard to the age of the deposits and their relationship to similar deposits in other regions. The entire Tertiary flora falls into two groups belonging to the Eocene and the Oligocene periods. The report is rather poorly illustrated by a few text figures.

E. R. L.